

# Women's Depressive Symptoms during the Transition to Motherhood

## The Role of Competence, Relatedness, and Autonomy

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### Abstract

This study investigates the longitudinal pattern of reciprocal relations between mothers' perceived satisfaction of their needs for competence, relatedness, and autonomy and depressive symptoms during the transition to motherhood. Participants were 331 women assessed during their pregnancy and two and five months after delivery. Results based on structural equation modeling provide some support for the effect of perceived needs satisfaction on subsequent depressive symptoms during the postpartum period. In addition, it appears that prior postpartum depressive symptoms account for subsequent psychological needs satisfaction. Discussion centers on the theoretical, methodological, and practical implications of the results.

### Keywords

- *anxious attachment to a partner*
- *motivation*
- *postpartum depressive symptoms*
- *self-efficacy*
- *transition to motherhood*

THE POSTPARTUM period has been defined as a time of increased vulnerability during which mothers can experience mood disorders (Cohen & Nonacs, 2005). Among these, postpartum depression is the most common complication of childbirth, affecting between 10 percent and 15 percent of new mothers (Miller, 2002). However, a much larger percentage of women (between 15 percent and 30 percent) report nonclinical levels of depressive symptoms after childbirth, which may be classified as postpartum depressive symptoms (PDS; Goodman, 2004).

Postpartum depressive symptoms have been associated with maternal maladjustment, which can have significant deleterious effects on the child and the family (Cummings, Keller, & Davies, 2005). Research also suggests that mothers presenting high levels of PDS a few weeks after childbirth are at risk of experiencing high levels of depressive symptoms during subsequent months (Beeghly et al., 2002; Goodman, 2004) or of developing major postpartum depression (Dennis, 2004).

The evidence converges to suggest that psychosocial factors play an important role in triggering PDS (Gale & Harlow, 2003; Robertson, Grace, Wallington, & Stewart, 2004). In this article, we focus on three factors: parental self-efficacy; anxious attachment to a significant other; and parental autonomous motivation. These factors were selected not only because they can be regrouped under the theoretical umbrella of Self-Determination Theory (SDT; Deci & Ryan, 2002), but also because they have been empirically supported (e.g. Gauthier, Sénécal, & Guay, 2007; Jones & Prinz, 2005; Simpson, Rholes, Campbell, Tran, & Wilson, 2003; Zachariah, 1994). In the following section, we briefly present SDT and the evidence supporting the linkages between these three factors and PDS.

## SDT

Research has shown that SDT is a useful framework for understanding human behavior in various life contexts (Deci & Ryan, 2002). SDT posits three fundamental psychological human needs: competence; relatedness; and autonomy. According to SDT, when these needs are satisfied, they enhance personal well-being. The need for competence is generally defined as a desire to interact effectively with the environment. In other words, to fulfill their need for competence, individuals must perceive that

they have the skills required to achieve their pursued goals when performing an activity. The need for relatedness refers to the need for close and secure emotional bonds and to feel loved and connected to significant others (Deci & Ryan, 2002). The need for autonomy is defined as the need to experience choice and the feeling that one is the initiator of one's own actions, and to act in a way that is coherent with one's values. As we shall see below, research in the transition to motherhood has provided some support for the association between these psychological needs and PDS.

## Empirical evidence on the relations between psychological needs satisfaction and PDS

In this study, in order to remain consistent with previous studies of mothers' PDS, we used a measure of self-efficacy to indicate that the need for competence was met. In the prenatal and early postpartum periods, perceived self-efficacy is generally defined as parents' belief that they can organize and carry out a set of parenting tasks (deMontigny & Lacharité, 2005). Some studies have found a negative relation between women's perceived self-efficacy regarding their role as a mother and PDS (e.g. Gross, Conrad, Fogg, & Wothke, 1994; Howell, Mora, & Leventhal, 2006).

In this study we posit that women who experience a high level of anxiety in their relationship with a significant other do not perceive that the need for relatedness has been met. Anxious attachment refers to the fear of not being liked, supported, or accepted by a significant other as well as a fear of being abandoned (Brennan, Clark, & Shaver, 1998). Focusing on the spousal relationship, Simpson and colleagues (2003) reported that a mother's anxious attachment to her partner predicted PDS.

In the SDT tradition, perceived autonomy is usually operationalized via motivational processes (Connell & Wellborn, 1991). In other words, the need for autonomy is satisfied to a greater extent among those who act based on internal motives such as intrinsic motivation or because they attach importance to an activity than among those who act to obtain rewards or to avoid punishment or feelings of anxiety or guilt (Deci & Ryan, 2002). Recently, Gauthier et al. (2007) showed that autonomous motivation in the decision to become pregnant was positively related to parental self-efficacy belief,

positive relationship with a partner, family, and friends, positive affect, and marital and personal quality of life, but negatively related to anxiety, unhappiness, guilt, and incompetence.

Taken together, past research on these three psychological needs suggests that women's autonomy in the decision to have a child, perceived self-efficacy in the maternal role, and a less anxious attachment to the partner are important components that foster women's psychological adjustment during the transition to parenthood.

## Critique of past research and overview of the present study

In the literature on the relations between women's PDS and psychosocial factors, little is reported about how these factors and PDS are interrelated, making it difficult to determine the reciprocal relations among the constructs based on appropriate longitudinal data and structural equation models. Indeed, most studies are cross-sectional and thus provide a weak test for a reciprocal effects model. For example, it is not clear whether parental self-efficacy predicts maternal vulnerability to symptoms of depression or, alternatively, whether these symptoms can lead to lower maternal self-efficacy (Jones & Prinz, 2005).

The purpose of the present study was therefore to test reciprocal relations among mothers' perceived psychological needs (parental self-efficacy, anxious attachment/relatedness to a partner, and parental autonomy) and PDS. In other words, are parental self-efficacy, anxiety about relations with a partner, and perceived autonomy associated with subsequent levels of PDS, or is PDS associated with parental self-efficacy perceptions, the level of anxious attachment to the partner, and perceived autonomy, or are these constructs reciprocally related over time?

## Method

### *Participants and procedure*

Data were collected as part of a larger longitudinal project that addressed adjustment to parenthood (Pierce, Sénécal, Gauthier, & Guay, 2003). This longitudinal project comprised three measurement times: during the second or third trimester of pregnancy (Time 1); when the child was two months old (Time 2); and when the child was five months old (Time 3). To participate in the study, women had to: (a) be at least 18 years old; (b) live with their life

partner (i.e. the child's father); (c) not be expecting twins; and (d) be in their second or third trimester of pregnancy. At Time 2, women were excluded from the study if: (a) their child was born before 35 weeks of pregnancy; (b) their child was hospitalized for more than two weeks immediately after childbirth; or (c) their child presented serious physical or intellectual difficulties (e.g. cardiac malformation, cerebral palsy, fetal alcohol syndrome). In addition, given that living with a partner was a criterion of inclusion at the beginning of the study, women who were separated from their partner at Time 2 or Time 3 were excluded from the study.

The sample for this longitudinal study was composed of 331 women who provided data for at least one of the three data waves: 317 women took part at Time 1, 301 at Time 2, and 306 at Time 3. A total of 281 women (for 84.9 percent of the total sample) participated in all three data waves. The sample was composed of 331 women because 13 women began participating at Time 2 while one additional woman took part in the Time 2 assessment only.

Participants' mean age was 28.9 years ( $SD = 4.4$ ; range 19 to 40 years). Of the 331 women, 37 percent were in their second trimester of pregnancy (13 to 27 weeks) and 58 percent were in their third trimester (28 to 43 weeks). Thirty-three percent were married and 66.2 percent lived with a partner. Forty-five percent of participants held a high school or college diploma whereas 54.5 percent held a post-collegial degree. Overall, 72.5 percent of the participants ( $n = 240$ ) indicated that they were primiparous (first child).

### *Measures*

***Parental self-efficacy*** This scale measured women's beliefs about their mothering skills. It was composed of six items (e.g. I will be (I am) very good at calming my baby down when he/she is upset, fussy, or crying) selected from the parental self-efficacy scale developed by Teti and Gelfand (1991) and adapted by Boivin et al. (2005) for French-speaking participants. Items were rated on a seven-point Likert-type scale ranging from 1 (not at all what I think) to 7 (exactly what I think). Cronbach's alpha values for this measure were .82 (T1), .84 (T2), and .78 (T3).

***Anxious attachment to a partner*** To assess participants' feelings of lack of security in the relationship with her partner, we used an abbreviated version of the anxiety dimension subscale from the Experiences in Close Relationships Scale (Brennan

et al., 1998; brief Canadian French version by Lafontaine & Lussier, 2003). This scale consists of 10 items that measure anxious attachment in relationships. Participants were asked to rate 10 items concerning their relationship with their partner (e.g. I worry about being abandoned by my partner). All items were rated on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha values for this measure were .86 (T1), .88 (T2), and .88 (T3).

**Parental autonomous motivation** To measure this construct, we used the French version of the Motivation to Have a Child Scale (MCS; Gauthier et al., 2007). This scale is composed of 19 items designed to assess five types of motivation posited by SDT, namely intrinsic motivation, identified regulation, introjected regulation, external regulation, and amotivation. At each of the three measurement times, participants were asked to answer the following question: 'What reasons led you to have a child?' Each item represents a possible answer to this question. Items assessed participants' intrinsic motivation (e.g. For the pleasure of seeing my child grow), identified regulation (e.g. Having a child is a way to realize my life plan), introjected regulation (e.g. To please my social network—partner, family, friends), external regulation (e.g. To give new direction to my relationship with my partner), and amotivation (e.g. I used to have good reasons for having a child, but now I wonder why). Items were rated on a seven-point Likert-type scale ranging from 1 (do not agree at all) to 7 (very highly agree). The MCS showed high construct validity as well as internal consistency (Gauthier et al., 2007). Cronbach's alphas for each subscale ranged between .60 and .90 for the three data waves, with most values above .70.

Following the procedure commonly used in the SDT literature (e.g. Deci & Ryan, 2002), scores for the five subscales were combined to form a relative autonomy index using the following formula:  $[(2 \times \text{intrinsic motivation}) + \text{identified regulation}] - [(\text{introjected} + \text{external regulation}) / 2] - (2 \times \text{amotivation})$ . Each motivation subscale included four items (except for introjected regulation, with three items) and consequently four indicators (or indexes) were computed. Positive scores (possible range between -18 and +18) suggest that women acted mostly for intrinsic and identified reasons, whereas negative scores indicate that women acted mostly for introjected, external, or amotivated reasons.

Cronbach's alpha values for these indexes were .85 (T1), .88 (T2), and .89 (T3).

**PDS** The Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987; French version from Cox & Holden, 1994) was used to assess depressive symptoms. The EPDS is largely used to assess depressive symptoms in transition to motherhood (see Bennett, Einarson, Taddio, Koren, & Einarson, 2004). Although originally designed to assess postpartum depressive symptoms, the EPDS has also been validated to measure symptoms of depression during pregnancy (Josefsson, Berg, Nordin, & Sydsjo, 2001). The EPDS consists of 10 items covering common symptoms of depression (e.g. I have been so unhappy that I have been crying) experienced over the previous seven days. Items are scored on a four-point Likert scale (0 to 3, with a possible range from 0 to 30). Validation studies of the French version of the EPDS showed good psychometric properties during pregnancy and after childbirth (Adouard, Glangeaud-Freudenthal, & Golse, 2005). Cronbach's alphas for this scale were .77 (T1), .82 (T2), and .82 (T3).

## Statistical analyses

**Reciprocal effects models (REM)** Marsh and Yeung (1998) proposed methodological guidelines based on structural equation modeling to test reciprocal relations in multiwave-multivariable studies. First, each latent construct should be inferred on the basis of at least three indicators. Second, correlated uniqueness (i.e. correlation between the measurement errors of the same indicator over time) should be estimated to avoid positively biased estimates of stability. Third, constructs should be measured at least twice in a longitudinal study. Fourth, researchers should test a SEM model that estimates stability coefficients and cross-lag effects to determine reciprocal relations among constructs. Fifth, it is important to consider a sufficiently large and diverse sample to justify the generality of the findings. The present study meets all these guidelines.

**Goodness of fit** To ascertain the model fit, we used the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), the Root Mean Square Error of Approximation (RMSEA), and the chi-square test statistic. Values for the NNFI and CFI vary along a 0 to 1 continuum (although for the NNFI they can be greater than 1 in some cases), and

values greater than .90 are typically taken to reflect an acceptable fit (Schumacker & Lomax, 1996). Browne and Cudeck (1993) suggest that RMSEAs less than .05 are indicative of a 'close fit' and that values up to .08 represent reasonable errors of approximation. Note that a robust estimation is used to compute fit indices and standard errors. Consequently, we report the goodness of fit summary for the Yuan-Bentler correction.

**Invariance of factor loading** Factor loadings across measurement times were constrained to equality in our models to ensure that the participants understood the constructs in the same way over time. Thus, any changes in the amount of reliable variance indicators would be adequately captured as changes over time in the common construct variance (Little, Preacher, Selig, & Card, 2007).

**Missing data** Descriptive analyses indicate that of the 331 participants in the sample, 281 provided complete data on all three occasions. In the present study, the FIML (Full Information Maximum Likelihood) approach (version 6.1 of EQS) was used to estimate statistical parameters and thus increase the statistical power.

**Analytic strategy** The SEM analyses included a total of 12 factors (four latent factors at each measurement time), each based on responses to manifest variables. We used parcels of items to build three to four indicator variables for each model construct. For the construct anxious attachment to a partner, three indicators were built to form a latent factor by averaging the first three items of the scale to form the first indicator, the next three items to form the second indicator, and the remaining four items to form the third indicator. A latent factor of parental autonomous motivation was built by simply using the four indexes computed with the five subscales designed to evaluate autonomous motivation (four indicators). For parental self-efficacy, a latent factor was built by averaging items by groups of two with a result of three indicators, and so on, for PDS.

## Results

### *Confirmatory factor analysis (CFA).*

To provide an overview of the results, we first conducted a CFA with 12 latent factors. We fitted an a priori model with correlated uniquenesses between all matching measures collected at Time 1, Time 2,

and Time 3. The fit of this model is good ( $\chi^2$  [615,  $N = 330$ ] = 761.51,  $p < .05$ , CFI = 1.00, NNFI = 1.00, RMSEA = .027 ± .005), the factor solution is appropriate, and the factors are well defined (factor loadings ranged from .61 to .91). Table 1 presents correlations among the 12 factors as well as means and standard deviations. All correlations are in the expected direction. Moreover, most correlations are moderate, indicating that the constructs are relatively independent. In addition, results show that stability correlations are above .50, suggesting that variables are relatively stable over time, with the exception of depressive symptoms. Specifically, we note that the Time 1–Time 2 correlation ( $r = .42$ ) is significantly weaker than the Time 1–Time 3 ( $r = .59$ ;  $t = -4.27$ ,  $p < .05$ ) and Time 2–Time 3 correlations ( $r = .60$ ;  $t = -4.50$ ,  $p < .05$ ), which is consistent with a transition effect to parenthood.

### *SEM analyses*

We first performed a general cross-lagged analysis based on structural equation modeling (SEM) to test the reciprocal influences between mothers' perceived satisfaction of their psychological needs and PDS. The tested model estimated only 12 cross-lag paths between PDS and our three explicative variables. In other words, this model did not estimate any reciprocal effects among anxious attachment, parental self-efficacy, and parental autonomous motivation. This model provides adequate fit indices ( $\chi^2$  [643,  $N = 330$ ] = 842.201, CFI = .99, NNFI = .99, RMSEA = .031 ± .005). Only significant paths are depicted in Fig. 1. All stability paths connecting a given construct from Time 1 to Time 2 and from Time 2 to Time 3 are significant and substantial, ranging between .48 and .72. In addition, anxious attachment to a partner at Time 2 positively predicts postpartum depressive symptoms at Time 3 ( $\beta = .16$ ), whereas postpartum depressive symptoms at Time 2 predict anxious attachment to a partner at Time 3 ( $\beta = .12$ ). No other paths were found to be significant.

Because our explicative variables (i.e. self-efficacy, autonomous motivation, and anxious attachment) are moderately correlated at each data wave, this may have cancelled the effect of one of the constructs on PDS. In order to circumvent this potential problem, we constructed separate models to evaluate reciprocal relations between each of these constructs and PDS. Results are depicted in Fig. 2. These three models yield very good fit indices (CFIs > .95, NNFI > .95, RMSEAs < .05). The patterns of results for these models are similar to those observed

Table 1. CFA: correlations among variables

Factors	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
F1- Anxious attachment-partner -T1	—											
F2- Anxious attachment-partner -T2	.69	—										
F3- Anxious attachment-partner -T3	.59	.74	—									
F4- Parental self-efficacy-T1	-.23	-.20	-.15	—								
F5- Parental self-efficacy-T2	-.13	-.18	-.21	.53	—							
F6- Parental self-efficacy-T3	-.24	-.26	-.35	.55	.73	—						
F7- Autonomous motivation -T1	-.22	-.17	-.15	.46	.38	.38	—					
F8- Autonomous motivation -T2	-.27	-.23	-.16	.32	.53	.45	.65	—				
F9- Autonomous motivation -T3	-.21	-.21	-.17	.21	.41	.42	.67	.77	—			
F10- Dep. symptoms-T1	.39	.22	.29	-.25	-.15	-.22	-.29	-.21	-.19	—		
F11- Dep. symptoms-T2	.24	.29	.31	-.19	-.36	-.34	-.24	-.49	-.40	.42	—	
F12- Dep. symptoms-T3	.36	.34	.47	-.08	-.17	-.43	-.24	-.31	-.36	.59	.60	—
Mean	2.5	2.4	2.5	6.02	5.99	6.29	13.60	13.73	14.02	1.59	1.73	1.60
SD	1.08	1.12	1.15	.62	.71	.56	2.63	2.85	2.84	1.23	1.36	1.37

Note: All correlations are significant at  $p < .05$  except those in the  $\{-.13 \text{ to } -.08\}$  interval

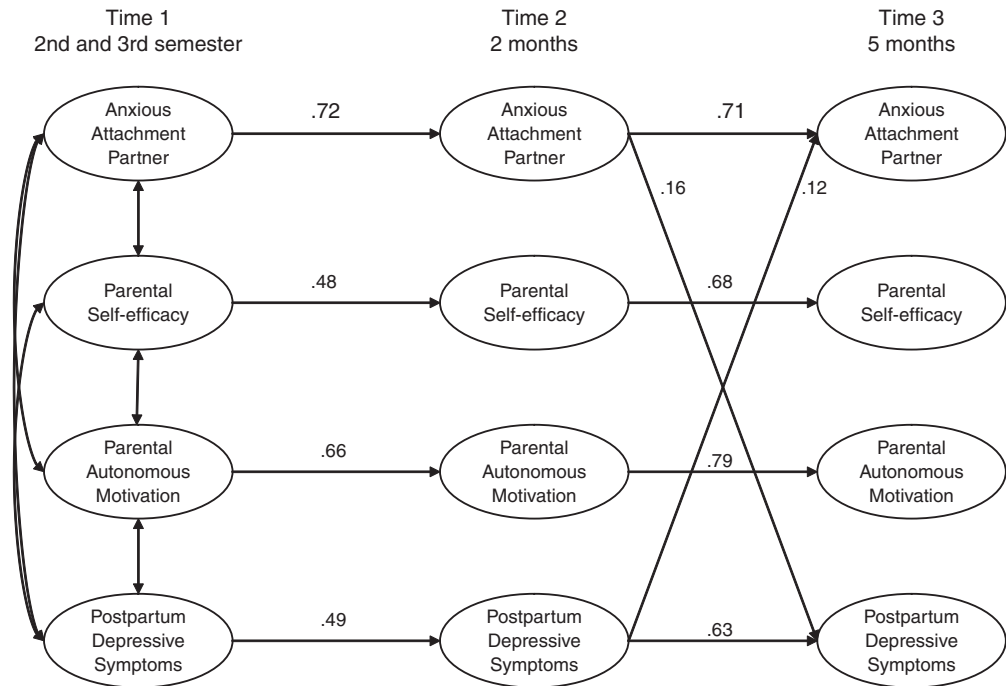


Figure 1. Results of the general model.

in the general model. However, one path which is not significant in the general model attains significance in one of these more focused models, namely the negative path from Time 1 parental autonomous motivation to Time 2 PDS. That is, the more mothers felt autonomous in their parental role during their second or third semester of pregnancy, the less they reported symptoms of postpartum depression two months after the birth of their child.

## Discussion

The purpose of this study was to test how mothers' perceived psychological needs satisfaction (parental self-efficacy, anxious attachment to a partner, and autonomous motivation) and PDS are interrelated during the transition to motherhood. Results reveal that self-reported anxious attachment to a partner two months after the child's birth is associated with PDS three months later. Conversely, self-reported PDS two months after the child's birth predicts more anxious attachment to a partner three months later. These reciprocal effects are observed in both the general SEM model and the supplemental SEM

model. However, no support was found for the contribution of mother's parental self-efficacy to subsequent PDS or for the path connecting prior PDS to ensuing parental self-efficacy. Moreover, although parental autonomous motivation is not related to subsequent PDS in the general SEM model, the supplemental model indicates that mothers who report high levels of parental autonomous motivation during pregnancy have lower levels of PDS two months after the birth of their child. However, no significant relations between prior PDS and subsequent parental autonomous motivation were found. These findings lead to a number of implications for theory, research, and practice.

### *Parental self-efficacy and women's PDS*

Results indicate that the paths connecting parental self-efficacy and PDS are not significant. Nonetheless, it is noteworthy that correlations between parental self-efficacy and depressive symptoms are negative at each wave. The correlation between self-efficacy and PDS is  $-.25$  at Time 1,  $-.36$  at Time 2, and  $-.43$  at Time 3. These negative correlations are consistent

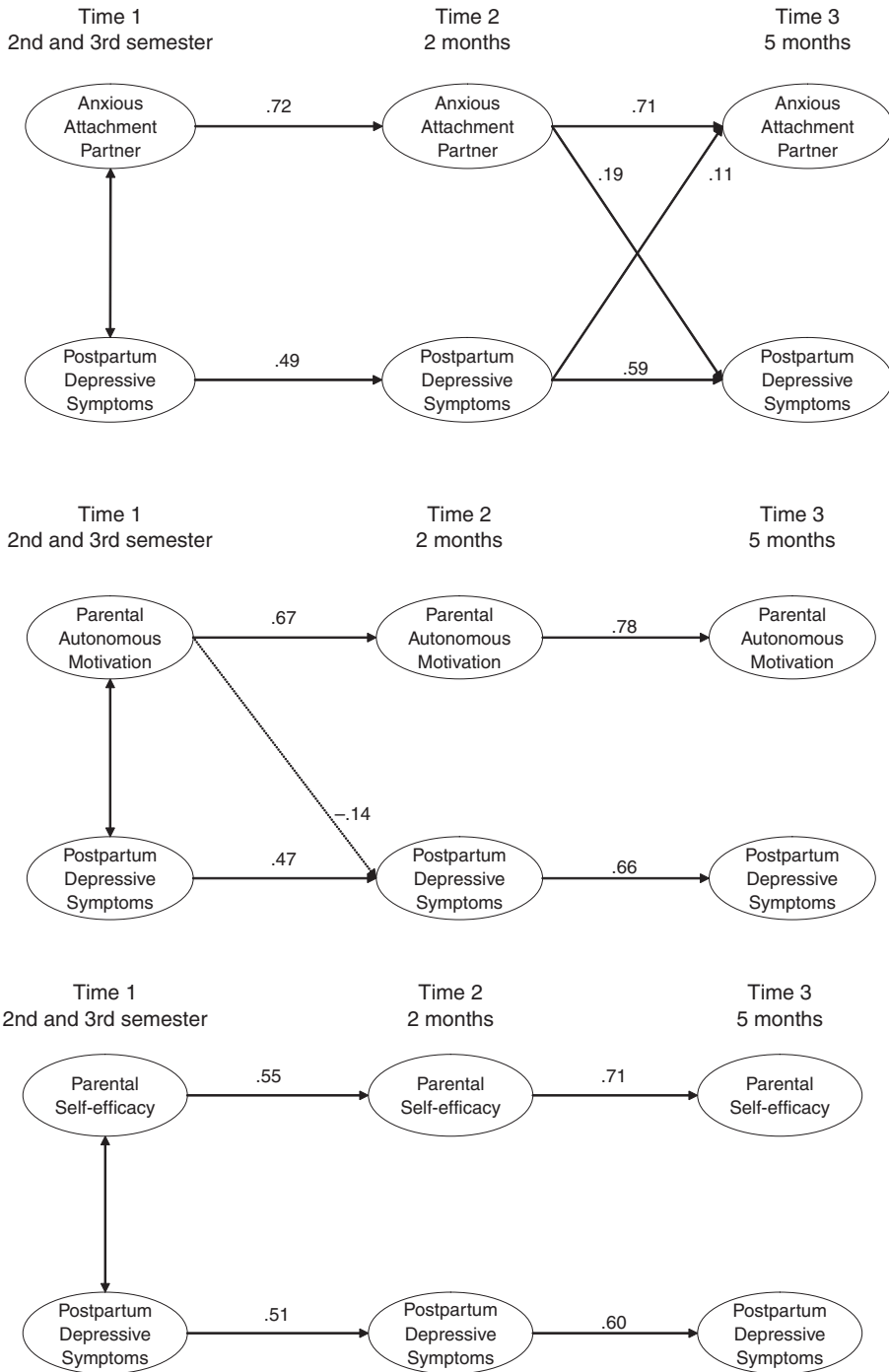


Figure 2. Results of the supplemental models.



with previous reports of a negative link between concurrent measures of self-efficacy and PDS (Porter & Hsu, 2003; Teti & Gelfand, 1991). However, cross-lag results suggest that associations between concurrent measures of parental self-efficacy and depression symptoms should not be taken as implying that self-efficacy beliefs are a determinant of later depressive symptoms or vice versa.

These results suggest that self-efficacy may not be a primary determinant of PDS experienced by mothers in the first few months after the birth of their child. Yet, the importance of this construct later on cannot be excluded. Indeed, the correlation between PDS and parental self-efficacy appears to increase from Time 1 to Time 3. These results suggest that the self-efficacy perceptions of mothers are not highly correlated with PDS at the beginning of the transition to motherhood, but that with increased life experience, mothers may become more aware of their relative strengths and weaknesses such that their parental self-efficacy becomes more highly correlated with PDS. Once perceptions of competence are more firmly established, the relationship might become reciprocal: mothers with high perceptions of competence would be more apt to approach their caring tasks with confidence, which would subsequently lead to lower levels of PDS. In turn, these low levels of PDS would be likely to be associated to higher confidence in their competence.

### *Attachment to a partner and women's PDS*

We observed that the more anxiously that women were attached to their partner when their child was two months of age, the more likely they were to experience higher levels of PDS five months after childbirth. This finding is consistent with studies showing an association between anxious attachment with a partner and psychological outcomes such as using negative coping strategies, marital dissatisfaction, and depressive symptoms during the transition to parenthood (Feeney, Alexander, Noller, & Hohaus, 2003; Simpson et al., 2003). This result also corroborates postulates of SDT that the feeling of being connected to significant others is important for optimal psychological functioning (Deci & Ryan, 2002).

In light of the above, it is interesting to note that women's anxious attachment to their partner is not related to subsequent changes in PDS between Time 1

and Time 2. To explain these results, we propose that the partner is more likely to have an impact on depressive mood in the later part of the postpartum period, therefore during the full exercise of the maternal role rather than during the first weeks after childbirth (Matthey, Barnett, Ungerer, & Waters, 2000). Specifically, we suggest that because parental roles may not yet be established in the first few weeks following delivery, the partner would not yet be a determining attachment figure in the context of maternity. However, the partner would become a more significant attachment figure during the months following childbirth by helping the mother adjust to the demands of parenthood. As parental roles become more clearly defined and both partners acquire parental experience, the partner becomes a more important source of support for the mother. Consequently, a mother's anxious attachment to her partner (i.e. not feeling valued and feeling afraid of being unloved or abandoned by the partner) becomes predictive of later depressive symptoms during the postnatal period.

Another interesting finding is the significant path between maternal PDS two months after childbirth and anxious attachment to the partner three months later. This implies that women experiencing high levels of PDS may develop greater anxiety in subsequent months about being abandoned and see themselves as less deserving of their partner's affection. This may be explained by the fact that women with high levels of PDS elicit more conflicting behaviors from their partner (e.g. insults, threats), which may increase their anxiety about their relationship with their partner (Herr, Hammen, & Brennan, 2007).

### *Parental autonomous motivation and women's PDS*

Results of the general model reveal no association between prior parental autonomous motivation and subsequent PDS. However, a supplemental model indicates that, in the prenatal period, low autonomous motivation toward the decision to have a child negatively predicts depressive symptoms two months after childbirth. It therefore appears that women who decide to have a child without pleasure and/or choice and instead make this decision based on internal or external pressures may experience more PDS. These results are in line with SDT (Deci & Ryan, 2002) and previous studies on parenting (Gauthier et al., 2007).

However, the results are different when we try to predict Time 3 PDS. Indeed, a low sense of autonomy with respect to the mother's decision to have a

child does not appear to lead to PDS later on. We may argue that this finding is troublesome, because the paths connecting autonomy to PDS are not replicated across waves. However, this absence of relationship between Time 2 and Time 3 may stem from the fact that other factors are more important in explaining PDS in the months after childbirth. In fact, pregnancy is probably a period for establishing a maternal identity through a process of clarifying resources and attitudes and restructuring goals to suit the new role and responsibilities (Mercer, 2004), including focusing on reasons to have a child. This process can contribute to psychological adjustment for women, particularly during the first weeks after childbirth. Subsequently, in the months after childbirth, other factors, such as perceiving an insecure relationship with a partner when childcare demands are high, may contribute much more significantly to PDS than autonomous motivation for having a child.

In addition, it is important to keep in mind that the time interval is shorter between Time 2 and Time 3 than between Time 1 and Time 2. The typical time interval between Time 1 and Time 2 is five months, whereas between Time 2 and Time 3 it is only three months. Hence, there are fewer changes to capture between Time 2 and Time 3, thereby minimizing the possibility for our psychological factors to explain changes during this period. In addition, the sample is composed of women with very few depressive symptoms (see Table 1), which could explain why there are no significant paths between parental autonomous motivation and PDS.

### **Limitations of the study, future research directions, and conclusion**

Although our results advance the understanding of the processes involved in PDS, some limitations should be taken into consideration when interpreting the findings. First, the study sample includes women who live with their partner, are mostly young and primiparous, and have a high level of education. Therefore, these findings may not capture the experience of mothers giving birth to a child in other life circumstances (e.g. lower socioeconomic status, single women). Second, a more complete understanding of PDS should take into account other potential risk factors. For example, future research could investigate the role of contextual variables such as those related to extended family, friends, and health care

professionals. In addition, other partner variables could be considered, such as their psychological functioning during the transition to parenthood (e.g. Pinheiro et al., 2006). Third, the measures used were self-report scales, and all data were reported by the same source. Indeed, it is well known that self-report questionnaires create a response bias through the phenomenon of social desirability. It would be preferable for future research to use more objective assessments in order to more accurately measure some of the constructs.

Our results are in line with some postulates of SDT, and they also underscore the importance of autonomous motivation and the relationship with the partner for women's well-being during the transition to motherhood. It is our hope that health professionals will use psychological interventions that account for the variables investigated in the present study when working to prevent and reduce depressive symptoms during the postpartum period.

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